

**What is claimed is:**

- 1 1. A therapeutic ultrasound device comprising:  
2 a substrate having a face and configured to be positionable on a  
3 body surface of a human or veterinary patient; and  
4 a plurality of ultrasound transducer elements disposed on the  
5 face of the substrate;  
6 the device being structured to be effective to deliver ultrasound  
7 energy to at least an organ or portion of the patient's body for a  
8 sufficient time to stimulate angiogenesis and/or relieve ischemia.
- 1 2. An ultrasound device according to Claim 1 wherein the substrate  
2 comprises a flexible sheet.
- 1 3. An ultrasound device according to Claim 1 further comprising drive  
2 electronics for controlling operation of at least some of the  
3 transducer elements.
- 1 4. An ultrasound device according to claim 1 wherein the transducer  
2 elements comprise piezoelectric ceramic material.
- 1 5. An ultrasound device according to claim 1 wherein the transducer  
2 elements comprise PZT.
- 1 6. The ultrasound device according to claim 1 wherein the transducer  
2 elements are rigidly connected together.
- 1 7. The ultrasound device according to claim 1 being configured to cover  
2 a portion of a human chest.
- 1 8. The ultrasound device according to claim 1 being configured to cover  
2 a portion of a human leg.

- 1        9.     A method for causing an ultrasound-induced effect within the body  
2             of a human or veterinary patient, said method comprising the steps  
3             of:  
4                 positioning an ultrasound device including a plurality of flexibly  
5                 connected ultrasound transducer elements on the body surface of  
6                 the patient; and  
7                 using the ultrasound transducer elements to deliver ultrasound  
8                 to at least a portion of the patient's body for sufficient time to cause  
9                 the ultrasound-induced effect.
- 1        10.    A method according to claim 9 wherein the step of using the  
2             ultrasound transducer elements comprises radiating ultrasound into  
3             the patient's body for a time period of at least about one hour.
- 1        11.    A method according to claim 9 wherein the ultrasound has a  
2             frequency in the range of about 1.6 MHz to about 8 MHz.
- 1        12.    A method according to claim 9 wherein the ultrasound has a  
2             frequency in the range of about 40KHz to about 400 KHz.
- 1        13.    A method according to claim 9 wherein the all of the transducer  
2             elements emit ultrasound of substantially the same frequency.
- 1        14.    A method according to claim 9 wherein the frequency of ultrasound  
2             emitted by at least one of the transducer elements is different from  
3             the frequency of ultrasound that that is emitted from at least one of  
4             the other transducer elements.
- 1        15.    A method according to claim 9 wherein all of the transducer  
2             elements emit ultrasound during the same time period.

- 1      16.    A method according to claim 9 wherein at least one of the  
2            transducer elements emits ultrasound during a time period that is  
3            different from the time period during which at least one of the other  
4            transducer elements emits ultrasound.
- 1      17.    A method according to Claim 9 wherein the ultrasound-induced  
2            effect is angiogenesis and/or treatment or prevention of ischemia.
- 1      18.    A method according to Claim 9 wherein the ultrasound device is  
2            positioned on the chest and used to promote angiogenesis in the  
3            heart for relief of myocardial ischemia.
- 1      19.    A method according to Claim 9 wherein the ultrasound device is  
2            used to cause thrombolysis in the patient.
- 1      20.    A method according to Claim 9 wherein the patient is presenting  
2            with ST segment changes or other clinical or biochemical indicia of  
3            myocardial infarction.
- 1      21.    A method according to Claim 9 wherein the ultrasound device is  
2            used to prevent restenosis after angioplasty and/or stent placement  
3            in a coronary artery or other vessel.
- 1      22.    A method according to Claim 9 wherein the ultrasound device is  
2            positioned on the patient's calf and used to promote angiogenesis,  
3            relieve myocardial ischemia and/or intermittent claudication or other  
4            ischemic condition of the leg.
- 1      23.    A method according to Claim 9 wherein the ultrasound device is  
2            positioned on the chest of a patient who suffers from dilated  
3            cardiomyopathy and used to promote angiogenesis and/or improve  
4            left ventricular function.

- 1        24.    A method according to Claim 9 wherein the ultrasound device is  
2                   positioned on at least one extremity of a patient who suffers from  
3                   diabetic neuropathy or other neuropathy and used to promote  
4                   angiogenesis and /or relieve pain resulting from such neuropathy.
- 1        25.    A method according to claim 9 wherein the step of using the  
2                   ultrasound transducer elements comprises radiating ultrasound  
3                   energy from more than one of the transducer elements  
4                   simultaneously.
- 1        26.    A method according to claim 9 wherein the step of using the  
2                   ultrasound transducer elements comprises radiating ultrasound  
3                   energy from each of the transducer elements in an alternating  
4                   manner.
- 1        27.    A method according to claim 9 wherein the step of using the  
2                   ultrasound transducer elements comprises radiating ultrasound  
3                   energy into the patient's body in a preprogrammed sequence.